

What is claimed is:

1. A method for enabling performance of an operation on a cardiac valve of a heart while the heart is beating, the method comprising placing a valved
5 filter device in a flow path of a blood vessel downstream from the cardiac valve, the device being operative to effect greater antegrade flow than retrograde flow through said the vessel, and being operative to restrict the passage of emboli while
10 allowing blood to flow through the vessel.

2. A method for performing an operation on a cardiac valve of a heart while the heart is beating, the method comprising the steps of:

15 a) positioning a valved filter device in a flow path of a blood vessel downstream from the cardiac valve, the device being operative to effect greater antegrade flow than retrograde flow through the vessel;

20 b) resecting at least a portion of the cardiac valve; and

c) affixing at least one prosthetic valve at or downstream from the resected cardiac valve.

3. A method for enabling performance of an
5 operation on a cardiac valve of a heart while the heart
is beating, the method comprising placing a valved
filter device in a flow path of a blood vessel of the
cardiac valve, the device being operative to effect
greater antegrade flow than retrograde flow through the
10 vessel, and being operative to restrict the passage of
emboli while allowing blood to flow through the vessel.

4. A method for performing an operation on a
cardiac valve of a heart while the heart is beating, the
15 method comprising the steps of:

- a) positioning a valved filter device in a flow
path of a blood vessel downstream from the cardiac
valve, the device being operative to effect greater
antegrade flow than retrograde flow through the vessel;
- 20 b) resecting or disrupting at least a portion of
the cardiac valve; and

c) affixing at least one prosthetic valve at, upstream or downstream from the resected cardiac valve.

5. A device for performing intravascular
5 procedures wherein the device is adapted for placement in a flowpath of a blood vessel, the device comprising:

a) a valve means operative to allow greater antegrade flow than retrograde flow through the vessel; and

10 b) a filter operative to restrict passage of emboli while allowing blood flow through the vessel.

6. A device for performing intravascular or intracardiac procedures wherein the device is adapted
15 for placement in the flowpath of blood, the device comprising:

a valve means operative to allow greater antegrade flow than retrograde flow; and

a filter operative to restrict passage of emboli
20 while permitting blood flow therethrough.

7. A device for performing intravascular or intracardiac procedures wherein the device is adapted for placement in a flowpath of a blood vessel, the device comprising:

5 a) a valve means operative to allow greater antegrade flow than retrograde flow through the vessel; and

 b) a filter operative to restrict passage of emboli while allowing blood flow through the vessel.

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8. A valved filter device for use in repair and replacement of cardiac valves, the device comprising:

 an elongated tube of filter material, said tube being closed at a distal end thereof and open at a proximal end thereof; and

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 a membrane tethered to the open end of said tube at spaced apart fixation points, the membrane being expandable under diastolic pressure to form a generally parabolic cone substantially blocking flow of blood therethrough, and compressible under systolic pressure to form a substantially non-flow blocking configuration to permit flow of blood therethrough.

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9. The valved filter device in accordance with
claim 8 and further comprising a catheter extending
through a central portion of said tube, an apex portion
of the membrane being tethered to said catheter.

10. The valved filter device in accordance with
claim 8 and further comprising a valve seating retaining
ring fixed on the proximal end of said tube and having
the membrane fixation points thereon.

11. The valved filter device in accordance with
claim 9 and further comprising skeletal members
supporting said tube, said skeletal members including
radial struts operative to retain said catheter in the
tube central portion and collapsible so as to render the
device circumferentially compressible.